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TIER 1 REPORT CHECKLISTS

This is the checklist used by project managers to review Tier 1 Reports. You may want to consider using the checklist prior to submitting the report to DNR.

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Tier 1 Accuracy Review Checklist

The following document is used to review Tier 1 Reports and conversions to Tier 1 Reports. The following questions are to be answered based on the information presented in the Tier 1 Report, SCR, and LUST file. Responses may fall into the following categories:

Y - YES. Information provided meets the qualifications as intended or presents the correct information.

N - NO.

N/A - Not Applicable

Unk - Unknown. Information insufficient to draw conclusion.

1- Information is inadequate

2- Information is inaccurate

3- Information not presented

LUST/Reg. No. _____ Site Name/Location _____

Tier 1 Report Received _____ Date Tier 1 Review Completed _____

Reviewer: _____ Results of Review: _____ Accepted _____ Rejected _____

Comment letter date: _____ Tier 1 Classification: _____ NFA _____ Tier 2 _____

Current Site Conditions (check applicable items, circle contaminant source)

_____ Active USTs _____ Inactive USTs _____ Removed USTs

_____ Gasoline/Diesel _____ Waste Oil _____ Other _____

Are commingled plumes present? Enter LUST numbers. _____

Is free product present? _____ No _____ Yes - Type: _____

Date Discovered _____ Date of first FPRR _____ Date of last FPRR _____

Dominant Lithology (circle): Clay _____ Silt/Clay _____ Silt/Sand _____ Sand _____ Sand/Gravel _____
Gravel _____ Bedrock-granular _____ Bedrock-nongranular _____

Minimum depth to groundwater _____ Minimum depth to bedrock _____

Monitoring well #'s with SWL below unconsolidated/bedrock interface _____

Summary

File contains sufficient information to complete Tier 1 review? _____ Y _____ N

Comments/Summary/Action Items Needed(List):

Summary of draft letters to be sent:

Receptor Identification

Acceptable Unacceptable (see below)

Well Survey

Was a well survey conducted within 1000' of contaminant sources?	Y	N	Unk	1	2	3
Was a property owner/ pedestrian survey conducted to locate wells within 300' of contaminant sources?	Y	N	Unk	1	2	3
Are drinking water wells present?	Y	N	Unk	1	2	3
Are non-drinking water wells present?	Y	N	Unk	1	2	3
Explain deficiencies:						

Vapor to Enclosed Space Receptors

Explosive vapors have been reported in the past?	Y	N				
Spill Information: Date _____ Product Spilled _____ Quantity _____ IDNR Notified (circle)	Y	N	Spill # _____			
Was an explosive vapor survey of the nearest subsurface enclosed spaces in all directions and in places with a history of vapor problems conducted?	Y	N	Unk	1	2	3
An explosive vapor survey has been conducted using proper equipment?	Y	N	Unk	1	2	3
Explosive vapors are present?	Y	N				
Was a confined space survey conducted to a distance of 200' from the contaminant sources?	Y	N	Unk	1	2	3
Basements are present within 200' of the sources?	Y	N	Unk	1	2	3
Sanitary sewers are present within 200' of the sources?	Y	N	Unk	1	2	3
Explain deficiencies:						

Was soil gas sampling conducted to clear soil vapor pathway?	Y	N	N/A	1	2	3
If SCR conversion, was soil gas sampling conducted to						
- clear the groundwater vapor pathway?	Y	N	N/A	1	2	3
- clear the soil leaching groundwater vapor pathway?	Y	N	N/A	1	2	3
Explain deficiencies:						

Plastic Water Line Receptors

Is groundwater less than 20' beneath the surface?	Y	N		1	2	3
If yes, was a plastic water line receptor survey conducted to a distance of 200' from the sources?	Y	N	Unk	1	2	3
Are there any plastic water line mains within 200'?	Y	N	Unk	1	2	3
Are there any plastic water service lines within 200'?	Y	N	Unk	1	2	3
Explain deficiencies:						

Surface Water Body Receptors

Was a surface water body receptor survey conducted to a distance of 200' from the contaminant sources?	Y	N	Unk	1	2	3
Is there a surface water body within 200 feet of the source?	Y	N	N/A	1	2	3
Was a petroleum sheen observed on the surface water body?	Y	N	N/A	1	2	3
Has the designation of surface water body been provided?	Y	N	N/A	1	2	3
Explain deficiencies:						

I. TIER 1 REPORT BODY

Determine whether the following sections of the report have been adequately completed.

<u>A. Title Page:</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>B. Site Data Summary (Page 2):</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>C. Pathway Evaluation Summary (page 3)</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>D. Tier 1 Report Checklist (page 4)</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>E. Site History (page 5)</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>E. Current Site Conditions (page 6)</u>	Y	N	N/A	1	2	3
Deficiencies:						
<u>F. Sampling Results (pages 7-10)</u>						
1. Field Screening:	Y	N	N/A	1	2	3
2. Soil Analytical Data	Y	N	N/A	1	2	3
3. Groundwater Analytical Data	Y	N	N/A	1	2	3
4. Soil Gas Analytical Data	Y	N	N/A	1	2	3
5. Groundwater Elevations	Y	N	N/A	1	2	3
6. Hydraulic Conductivity	Y	N	N/A	1	2	3
Deficiencies:						
<u>G. Receptor Survey (pages 11-12)</u>						
1. Groundwater Well Survey	Y	N	N/A	1	2	3
2. Enclosed Space / Conduit Survey	Y	N	N/A	1	2	3
3. Surface Water Survey	Y	N	N/A	1	2	3
Deficiencies:						
II. APPENDICES						
<u>1. Topographic Map</u>	Y	N	N/A	1	2	3
<u>2. Site Plan Map</u>	Y	N	N/A	1	2	3
<u>3. Site Vicinity Map</u>	Y	N	N/A	1	2	3
<u>4. Field Screening Map</u>	Y	N	N/A	1	2	3
<u>5. Soil Contamination Maps</u>	Y	N	N/A	1	2	3
<u>6. Groundwater Contamination Plume Maps</u>	Y	N	N/A	1	2	3
<u>7. Groundwater Flow Direction Map</u>	Y	N	N/A	1	2	3
<u>8. Well Survey Map</u>	Y	N	N/A	1	2	3
<u>9. Enclosed Space and Conduit Map</u>	Y	N	N/A	1	2	3

<u>10. Surface Water Map</u>	Y	N	N/A	1	2	3
<u>11. Tank and Line Tightness Test Results</u>	Y	N	N/A	1	2	3
<u>12. Laboratory Data Sheets</u>	Y	N	N/A	1	2	3
<u>13. Soil Boring Logs</u>	Y	N	N/A	1	2	3
<u>14. Hydraulic Conductivity Measurements</u>	Y	N	N/A	1	2	3
<u>15. Well Logs</u>	Y	N	N/A	1	2	3
<u>16. Pathway Evaluation Worksheet</u> (required if software not used)	Y	N	N/A	1	2	3

Appendix Deficiencies: _____

III. CORRECTIVE ACTIONS

1. Declaration of Restrictive Covenants / Institutional Controls:

Form is dated?	Y	N	N/A	1	2	3
Description of restrictions is provided?	Y	N	N/A	1	2	3
Name of declarant is entered?	Y	N	N/A	1	2	3
Authorizing agent affixed signature?	Y	N	N/A	1	2	3
Form is notarized?	Y	N	N/A	1	2	3
Legal description of property provided?	Y	N	N/A	1	2	3
Does institutional control prohibit/restrict use to appropriate distance from source?	Y	N	N/A	1	2	3
Ordinance accepted?	Y	N	N/A	1	2	3

2. Abandoned Water Well Plugging Records

IDNR FORM 542-1226 complete?	Y	N	N/A	1	2	3
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3. Water Supply (IDNR) / Designated County Agent Notification:

IDNR form 542-1530 complete?	Y	N	N/A	1	2	3
Have site maps showing contamination been provided?	Y	N	N/A	1	2	3

4. Utility Company Notification

IDNR form 542-1531 complete?	Y	N	N/A	1	2	3
Have site maps showing contamination been provided?	Y	N	N/A	1	2	3

5. Report of Plastic Water Line Removal and/or Relocation

Report of the replacement/relocation provided as an Appendix to the Tier 1 Report?	Y	N	N/A	1	2	3
Documentation of Utility Company approval for replacement /relocation provided?	Y	N	N/A	1	2	3
If plastic water lines were replaced, are construction details (new pipe material, backfill material, burial depth) provided?	Y	N	N/A	1	2	3
Have relocated plastic water lines been moved at least 200 feet from contaminant sources?	Y	N	N/A	1	2	3
Documentation that relocation area is free of contamination has been provided?	Y	N	N/A	1	2	3
Construction details (backfill material, burial depth) of relocated plastic water lines are provided?	Y	N	N/A	1	2	3
Scaled site diagram which shows pertinent site features,						

Condensed Tier 1 Review Checklist (c:\rbca\t1ckmin2.doc) 12/8/97

soil and groundwater contamination, former and current location of plastic water lines, location of new non-plastic water lines provided?

Y N N/A 1 2 3

6. Report of Overexcavation Activities

Report of the excavation provided as an Appendix to the Tier 1 report?

Y N N/A 1 2 3

Field screening conducted prior to over excavation to estimate extent of soil contamination?

Y N N/A 1 2 3

Was adequate field screening performed during the OE activities to identify maximum concentrations? (One soil sample for field screening every 100 square feet of the base and the each sidewall).

Y N N/A 1 2 3

Was adequate confirmation soil sampling performed during the OE activities? (One soil sample for laboratory analysis every 400 square feet of the base and 400 square feet of each sidewall).

Y N N/A 1 2 3

Is excavation less than 400 square feet of exposed surface? If the excavation is less than 400 square feet of exposed surface, was a minimum of one soil sample from each sidewall and one soil sample from the base collected and analyzed by a laboratory?

Y N N/A 1 2 3

Y N N/A 1 2 3

Results of visual observations and field screening presented?

Y N N/A 1 2 3

Copies of the analytical data for the soil samples provided?

Y N N/A 1 2 3

A scaled site diagram with the following illustrated Area of the original contamination

Y N N/A 1 2 3

Dimensions and limits of the overexcavation

Y N N/A 1 2 3

Field screening sample locations

Y N N/A 1 2 3

Location of soil samples submitted for laboratory analysis

Y N N/A 1 2 3

Groundwater sampling borehole and well locations

Y N N/A 1 2 3

Pertinent site features (buildings, roads, utilities etc.)

Y N N/A 1 2 3

Groundwater flow direction

Y N N/A 1 2 3

Soil samples shipped to the lab within 72 hours of collection?

Y N N/A 1 2 3

Iowa certified laboratory used?

Y N N/A 1 2 3

Was the appropriate OA-1 and or OA-2 analysis conducted?

Y N N/A 1 2 3

Documentation provided that soil was properly disposed in accordance with 567-chapters 100, 101, 102, 120, and 121?

Y N N/A 1 2 3

Land application form documentation provided?

Y N N/A 1 2 3

Tier 1 Report - Completeness Review Checklist

The following document is used to review Tier 1 Reports (new and SCR conversions). The following questions are to be answered based on the information presented in the Tier 1 Report, SCR, and LUST file. Responses may fall into the following categories:

- Y - YES. Information meets qualifications as intended or presents the correct information.
- N - NO. Information not provided or does not meet qualifications as intended.
- NA - Not Applicable. Response / information is not required.

LUST/Reg. No. _____ Site Name/Location _____
 Date Tier 1 Rec'd: _____ Date Tier 1 Rev'd: _____
 Contract Reviewer: _____ DNR Reviewer: _____

TIER 1 REVIEW SUMMARY

Tier 1 based on SCR conversion _____ (Y/N)
 Tier 1 Source Concentrations < Tier 1 levels _____ (Y/N)
 Tier 1 Complete: _____ (Y/N)
 Review Results: _____ Accepted _____ Rejected Classification: _____ NAR _____ Tier 2 Req'd

If report is rejected, identify comments/summary/action items needed; include in response letter:

Tier 1 Review Comment letter dated: _____

TIER 1 REPORT - REVIEW CHECKLIST

Title Page (software printout or hardcopy format):

Required information provided Y N
 Name, number and signature of groundwater professional provided Y N - return report to GWP
 Name and signature of responsible party provided Y N - return report to RP

Items noticed to be incomplete _____

Site Data Summary (software printout or hardcopy format):

Required information provided Y N
 Bedrock encountered before groundwater Y N **If YES, Tier 2 req.**
 Free product currently at site Y N **If YES, Tier 2 req.**

Site Data Summary (continued):

Soil and Groundwater Source Maximums < Tier 1 levels..... Y N

Items noticed to be incomplete _____

Pathway Evaluation Summary (software printout or hardcopy format):

Required information provided Y N

Items noticed to be incomplete _____

Tier 1 Report Checklist..... Y N

Items noticed to be incomplete _____

REPORT BODY

Site Activity section (release discovered, reported, and circumstances) Y N

Site Owner chronology (name and addresses provided) Y N

Does chronology include identified RP Y N - report is incomplete.

Description of existing USTs and leak rate identified Y N NA

If active USTs present, is Financial Responsibility mechanism identified Y N NA

Description of site geology provided..... Y N

Description of surrounding land use provided (Reference: App.3)..... Y N

Field Screening Results table - required information provided..... Y N

Soil Boring / Monitoring Well Placement

Adequate field screening / source investigation conducted Y N

Justification that sources have been located is provided..... Y N

Items noticed to be incomplete: _____

Soil Analytical Data

Appropriate Group 1 and Group 2 chemicals have been analyzed Y N

Current and historical data provided..... Y N

List items noticed to be incomplete: _____

Groundwater Analytical Data

Appropriate Group 1 and Group 2 chemicals have been analyzed..... Y N

Current and historical data provided..... Y N

Hydraulic Conductivity and TDS values included Y N

List items noticed to be incomplete: _____

Description / history of free product recovery provided..... Y N

Is free product recovery currently in progress..... Y N If YES, Tier 2 required

Soil Gas sampling (SGS) conducted at the site Y N

Are the SGS methods and locations appropriate Y N

(1) SGS done at soil maximum(s) REF : App. 5..... Y N

Soil vapor to enclosed space pathway cleared..... Y N NA

(2) SGS done at groundwater maximum(s) REF: App. 6..... Y N

Groundwater vapor to enclosed space pathway cleared Y N NA

List items noticed to be incomplete: _____

Groundwater Elevation - required information provided Y N

Hydraulic conductivity table - required information provided..... Y N - report is incomplete

Minimum of 3 wells tested (except SCR conversions)..... Y N

Well parameter values in table correspond to data used in evaluations..... Y N

Sufficient time vs. drawdown data obtained to measure aquifer response Y N

Are calculated K values appropriate for geology Y N

List items noticed to be incomplete: _____

Groundwater well survey - required information provided to verify 300 ft and 1,000 ft survey completed Y N - report is incomplete*

* NOTE: if maximum contaminant levels are < Tier 1 levels, survey is not required

Name of public entities contacted: Y N NA

Well owners identified (name and address)..... Y N NA

List items noticed to be incomplete: _____

Enclosed Space / Conduit Survey table complete Y **N - report is incomplete***

* NOTE: if maximum contaminant levels are < Tier 1 levels, survey is not required

Data for all buildings within 200 feet provided	Y	N	NA
Data for water mains, sanitary & storm sewer mains within 500 ft provided	Y	N	NA
Data for all plastic water service lines within 200 ft provided.....	Y	N	NA
Results of explosive vapor survey provided.....	Y	N	NA
Conduit number corresponds to enclosed space / conduit map.....	Y	N	NA

List items noticed to be incomplete: _____

Surface Water Body Survey - required information provided..... Y **N - report is incomplete***

* NOTE: survey is required regardless of maximum contaminant levels.

Surface water body within 200 ft	Y	N
Petroleum sheen observed on surface water body.....	Y	N
Designation of surface water body provided.....	Y	N

MAPS & APPENDICES :

Required information provided for the following (reference: IDNR Tier 1 Guidance - pgs. 34 -35):

(1) Topographic map	Y	N	
(2) Site Plan map.....	Y	N	
(3) Site Vicinity map.....	Y	N	
(4) Field Screening map.....	Y	N	NA
(5) Soil contamination map(s).....	Y	N	
(6) Groundwater contamination map(s).....	Y	N	
(7) Groundwater Flow direction map	Y	N	
(8) Well Survey map.....	Y	N	
(9) Enclosed Space / Conduit Survey map.....	Y	N	NA
(10) Surface Water Body survey map.....	Y	N	NA
(11) Tank and Line Tightness Test results.....	Y	N	NA
(12) Laboratory Data Sheets	Y	N	NA
(13) Soil Boring Logs / Monitoring Well Construction Diagrams	Y	N	
(14) Hydraulic Conductivity Field Data and Computations	Y	N	
(15) Well Logs.....	Y	N	
(16) Pathway Evaluation Worksheet (if software is not used).....	Y	N	NA

CORRECTIVE ACTION DOCUMENTATION (OPTIONAL)

A. Restrictive Covenant / Institutional Control

Is a declaration of restrictive covenant or use of an institutional control proposed..... Y N

NOTE: DNR Legal will make final determination on acceptance of proposed restrictive covenant / inst. control

Items noticed to be incomplete: _____

B. Abandoned Water Well Plugging Record Forms

Copies of plugged water wells provided..... Y N NA

Items noticed to be incomplete: _____

C. Water Supply / County Agent Notification -

Is a copy of the notification form included with the report or in the LUST file Y N

Are the notification form and attachments complete Y N

Items noticed to be incomplete: _____

D. Report of Plastic Water Line Removal / Relocation - REF: IDNR Tier 1 Guidance, pg. 31

Has information been provided to document removal / relocation of a plastic water line..... Y N

Items noticed to be incomplete: _____

E. Utility Company Notification

Is a copy of the notification form included with the report or in the LUST file Y N

Are the notification form and attachments complete Y N

Items noticed to be incomplete: _____

F. Report of Soil Excavation Activities - REF: IDNR Tier 1 Guidance, pg. 32

Is documentation provided to indicate soil excavation has been conducted..... Y N

Were the excavation activities conducted in accordance with Subrule 135.12(11) of the IAC..... Y N

Items noticed to be incomplete: _____